

# Smart bandages that warn doctors if wound is infected

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SMART bandages which can detect how well a wound is healing and send a progress report to doctors will be trialled within a year, scientists have said.

The dressings are impregnated with tiny sensors which can pick up blood clotting or spot infections and wirelessly send data back to a clinician.

Swansea University, which is hoping to start using the bandages, said the technology could deliver personalised medicine. Patients with wounds are currently advised to return to the doctor at an agreed time. But different wounds may need a longer time to heal, or may have become infected.

Prof Marc Clement, chairman of the Institute of Life Science at Swansea (ILS), said: "Nanotechnology allows us to produce sensors to reduce the dimensions so that they are very small.

"They could be on an intelligent dressing. The next thing is to make those dressings at a cost that is afforda-

ble for the health service. Clearly the most effective way of doing that is through a [5G] printing technique."

The smart bandage would also connect to the patient's smartphone which can keep track of other health concerns that could be preventing healing, such as inactivity or diet.

"Sometimes we revere doctors so much that we tell them all is well but all of the evidence is there before them in this 5G world, so the clinician and patient can work together to address the challenge," Prof Clement told the BBC.

Other scientists at the University of California have been testing dressings that use sensors to pick up tissue damage and hope they could prevent patients from suffering bedsores.

Other researchers have created hydrogel films embedded with sensors that could send a drug to a wound. LED lights can warn patients and doctors about changes in different areas. Medication can then spread across the bandage through tiny passageways.